

Ephemeris for Physical Observations of

Greenwich Noon. 1904.	P.	L—O.	B.	Apparent Diameter.			<i>d.</i>	Q.
				Equat. Diam.	Excess over Polar.	Defect of Illum.		
May 1	335°580	239°076	+2°442	34'22	2'20	0'07	5°12	245°01
5	335°693	239°986	2°474	34'39	2'21	0'08	5°67	245°33
9	335°808	240°883	2°506	34'57	2'22	0'10	6°20	245°63
13	335°927	241°768	2°538	34'77	2'23	0'12	6°71	245°91
17	336°048	242°635	2°569	34'99	2'25	0'14	7°21	246°18
21	336°172	243°485	2°600	35'23	2'26	0'16	7°70	246°43
25	336°300	244°317	2°630	35'48	2'28	0'18	8°16	246°66
29	336°428	245°128	2°661	35'75	2'30	0'20	8°61	246°88
June 2	336°558	245°918	2°692	36°05	2'32	0'22	9°03	247°10
6	336°688	246°686	2°726	36°36	2'34	0'24	9°43	247°31
10	336°817	247°429	2°758	36°69	2'36	0'26	9°81	247°52
14	336°945	248°145	2°789	37°04	2'38	0'28	10°16	247°71
18	337°072	248°834	2°819	37°41	2'41	0'31	10°48	247°90
22	337°196	249°492	2°845	37°80	2'43	0'33	10°77	248°06
26	337°318	250°121	2°870	38°20	2'46	0'35	11°03	248°22
30	337°436	250°716	2°895	38°63	2'49	0'37	11°26	248°37
July 4	337°548	251°277	2°920	39°07	2'52	0'39	11°45	248°51
8	337°655	251°799	2°947	39°53	2'55	0'41	11°61	248°67
12	337°756	252°284	2°974	40°00	2'58	0'42	11°73	248°84
16	337°849	252°728	2°999	40°50	2'61	0'43	11°80	249°00
20	337°936	253°129	3°023	41°01	2'64	0'44	11°84	249°16
24	338°014	253°487	3°046	41°52	2'67	0'44	11°83	249°32
28	338°083	253°800	3°069	42°05	2'71	0'45	11°78	249°48
Aug. 1	338°142	254°066	3°091	42°59	2'74	0'44	11°67	249°63
5	338°192	254°283	3°112	43°15	2'78	0'44	11°52	249°78
9	338°229	254°449	3°133	43°70	2'81	0'43	11°33	249°91
13	338°255	254°563	3°152	44°26	2'85	0'41	11°07	250°04
17	338°270	254°625	3°170	44°83	2'88	0'39	10°76	250°17
21	338°274	254°633	3°186	45°39	2°92	0'37	10°41	250°30
25	338°265	254°589	3°201	45°93	2°95	0'35	10°00	250°43
29	338°244	254°493	3°215	46°47	2°99	0'32	9°54	250°58
Sept. 2	338°212	254°342	3°226	47°00	3°02	0'29	9°02	250°74
6	338°169	254°141	3°236	47°52	3°06	0'26	8°46	250°91
10	338°110	253°889	3°244	47°99	3°09	0'23	7°84	251°10
14	338°041	253°588	3°249	48°43	3°12	0'20	7°17	251°35

Jan. 1904.

Observations of Jupiter.

245

Jupiter, 1904-5. By A. C. D. Crommelin.

Greenwich Noon.	Longitude of λ 's Central Meridian.		corr. for Phase.	Light- time.	$\lambda - O.$	$B.$
	877°0'90 I.	870°0'27 II.				
1904. May				^m		
1	60°13	251°74	+ 0°11	48°542	233°96	+ 2°48
5	330°96	132°05	'14	48°312		
9	241°81	12°38	'17	48°059	234°68	2°51
13	152°70	252°75	'19	47°783		
17	63°61	133°14	'23	47°484	235°42	2°53
21	334°55	13°56	'26	47°164		
25	245°53	254°02	'29	46°824	236°16	2°55
29	156°54	134°50	'32	46°464		
June						
2	67°58	15°02	'35	46°086	236°89	2°57
6	338°65	255°57	'39	45°690		
10	249°76	136°16	'42	45°277	237°62	2°59
14	160°91	16°78	'45	44°848		
18	72°09	257°44	'48	44°405	238°35	2°61
22	343°31	138°14	'50	43°949		
26	254°56	18°87	'53	43°481	239°09	2°63
30	165°86	259°64	'55	43°004		
July						
4	77°20	140°45	'57	42°518	239°83	2°65
8	348°58	21°30	'59	42°023		
12	260°00	262°20	'60	41°523	240°55	2°67
16	171°46	143°14	'61	41°019		
20	82°97	24°13	'61	40°512	241°29	2°69
24	354°52	265°16	'61	40°003		
28	266°12	146°23	'60	39°496	242°02	2°71
Aug.						
1	177°76	27°35	'59	38°993		
5	89°45	268°52	'58	38°494	242°76	2°73
9	1°18	149°73	'56	38°002		
13	272°96	30°99	'53	37°521	243°49	2°75
17	184°78	272°29	'50	37°051		
21	96°65	153°63	'47	36°596	244°22	2°77
25	8°56	35°02	'44	36°157		
29	280°51	276°46	'40	35°736	244°95	2°78
Sept.						
2	192°51	157°93	'35	35°337		
6	104°54	39°44	'31	34°959	245°68	2°80
10	16°61	280°99	'27	34°609		
14	288°71	162°56	'22	34°286	246°42	2°81

	Greenwich Noon. 1904.	P.	L-O.	B.	Apparent Diameter.			<i>d.</i>	Q.
					Equat. Diam.	Excess over Polar.	Defect of Illum.		
Sept.	18	337°971	253°242	3°252	48"85	3"15	0"16	6°46	251°64
	22	337°893	252°855	3°253	49°24	3°17	0°13	5°72	251°98
	26	337°803	252°429	3°251	49°56	3°19	0°09	4°93	252°46
	30	337°708	251°959	3°246	49°84	3°21	0°06	4°10	253°17
Oct.	4	337°608	251°481	3°240	50°07	3°23	0°04	3°25	254°30
	8	337°506	250°969	3°231	50°26	3°24	0°02	2°38	256°69
	12	337°402	250°441	3°219	50°37	3°24	0°01	1°49	260°99
	16	337°296	249°903	3°204	50°42	3°25	0°00	0°64	
	20	337°192	249°361	3°188	50°41	3°25	0°00	0°47	
	24	337°091	248°822	3°170	50°34	3°24	0°01	1°29	54°44
	28	336°994	248°293	3°149	50°20	3°23	0°02	2°16	58°70
Nov.	1	336°901	247°780	3°126	50°00	3°22	0°04	3°04	61°65
	5	336°813	247°289	3°103	49°75	3°20	0°06	3°89	64°00
	9	336°731	246°826	3°079	49°45	3°18	0°08	4°71	64°88
	13	336°657	246°399	3°054	49°09	3°16	0°11	5°51	65°46
	17	336°591	246°010	3°028	48°70	3°14	0°14	6°26	65°90
	21	336°533	245°664	3°002	48°26	3°11	0°18	6°97	66°16
	25	336°482	245°365	2°977	47°77	3°08	0°21	7°64	66°40
	29	336°441	245°116	2°951	47°25	3°05	0°24	8°25	66°62
Dec.	3	336°409	244°918	2°926	46°72	3°01	0°27	8°81	66°80
	7	336°385	244°774	2°902	46°17	2°98	0°30	9°32	66°96
	11	336°370	244°685	2°879	45°61	2°94	0°33	9°77	67°10
	15	336°364	244°653	2°858	45°04	2°91	0°35	10°17	67°22
	19	336°366	244°678	2°838	44°46	2°87	0°37	10°51	67°34
	23	336°378	244°757	2°819	43°87	2°83	0°39	10°80	67°45
	27	336°398	244°890	2°802	43°28	2°79	0°40	11°03	67°56
	31	336°428	245°078	2°786	42°70	2°75	0°41	11°20	67°68
1905.									
Jan.	4	336°466	245°318	2°772	42°12	2°71	0°41	11°33	67°81
	8	336°513	245°610	2°760	41°56	2°68	0°41	11°40	67°94
	12	336°568	245°951	2°749	41°02	2°64	0°40	11°42	68°08
	16	336°632	246°340	2°740	40°49	2°61	0°40	11°40	68°22
	20	336°705	246°775	2°733	39°97	2°57	0°39	11°33	68°37
	24	336°786	247°252	2°727	39°47	2°54	0°37	11°22	68°52
	28	336°877	247°770	2°723	38°99	2°51	0°36	11°07	68°67
Feb.	1	336°977	248°328	2°722	38°53	2°48	0°34	10°87	68°82
	5	337°085	248°923	2°720	38°09	2°45	0°33	10°64	68°97
	9	337°202	249°555	2°720	37°66	2°42	0°31	10°37	69°14

Jan. 1904.		Observations of Jupiter.				247
Greenwich Noon.	Longitude of μ 's Central Meridian.		corr. for Phase.	Light-time.	A—O.	B.
	877° 90 I.	870° 27 II.				
1904.				m	°	°
Sept. 18	200° 84	44° 16	° 18	33·994		
22	112° 98	285° 78	° 14	33·734	247° 14	2° 83
26	25° 14	167° 42	° 11	33·510		
30	297° 32	49° 08	° 07	33·320	247° 87	2° 84
Oct. 4	209° 50	290° 74	° 05	33·167		
8	121° 68	172° 40	° 03	33·051	248° 60	2° 86
12	33° 85	54° 05	+ 0° 01	32° 978		
16	306° 01	295° 69	° 00	32° 946	249° 33	2° 87
20	218° 15	177° 31	° 00	32° 953		
24	130° 26	58° 90	— 0° 01	33° 000	250° 07	2° 89
28	42° 33	300° 45	° 02	33° 091		
Nov. 1	314° 36	181° 96	° 04	33° 220	250° 80	2° 90
5	226° 35	63° 43	° 06	33° 388		
9	138° 29	304° 85	° 10	33° 593	251° 54	2° 91
13	50° 16	186° 21	° 13	33° 839		
17	321° 98	67° 51	° 17	34° 118	252° 27	2° 92
21	233° 74	308° 75	° 21	34° 430		
25	145° 43	189° 92	° 26	34° 775	253° 00	2° 94
29	57° 05	71° 02	° 30	35° 149		
Dec. 3	328° 60	312° 05	° 34	35° 550	253° 73	2° 95
7	240° 09	193° 02	° 38	35° 976		
11	151° 51	73° 92	° 41	36° 424	254° 45	2° 96
15	62° 86	314° 75	° 45	36° 891		
19	334° 14	195° 51	° 48	37° 374	255° 19	2° 97
23	245° 36	76° 21	° 51	37° 871		
27	156° 51	316° 85	° 53	38° 383	255° 92	2° 98
31	67° 60	197° 43	° 55	38° 903		
1905.						
Jan. 4	338° 64	77° 95	° 56	39° 430	256° 65	2° 99
8	249° 62	318° 42	° 56	39° 960		
12	160° 56	198° 84	° 57	40° 493	257° 37	2° 99
16	71° 45	79° 21	° 56	41° 027		
20	342° 29	319° 53	° 56	41° 558	258° 10	3° 00
24	253° 09	199° 81	° 55	42° 085		
28	163° 85	80° 06	° 53	42° 606	258° 84	3° 01
Feb. 1	74° 58	320° 27	° 51	43° 119		
5	345° 28	200° 45	° 49	43° 621	259° 56	3° 02
9	255° 95	80° 60	° 47	44° 112		

Greenwich Noon, 1904.	P.	L-O.	B.	Apparent Diameter.			d.	Q.
				Equat. Diam.	Excess over Polar.	Defect of Illum.		
Feb. 13	337°329	250°219	2°721	37''26	2'39	0'29	10°07	69°31
17	337°465	250°913	2°724	36'87	2'37	0'27	9°74	69°50
21	337°610	251°636	2°727	36'51	2'35	0'25	9°38	69°70
25	337°763	252°386	2°731	36'16	2'33	0'23	9°00	69°92
Mar. 1	337°926	253°161	2°736	35'84	2'31	0'21	8°59	70°15
5	338°098	253°960	2°742	35'54	2'29	0'18	8°15	70°39
9	338°279	254°781	2°749	35'26	2'27	0'16	7°69	70°65
13	338°469	255°621	2°757	34'99	2'25	0'14	7°22	70°93
17	338°668	256°480	2°765	34'75	2'23	0'12	6°73	71°25
21	338°875	257°353	2°774	34'53	2'22	0'10	6°22	71°59
25	339°091	258°241	2°783	34'33	2'21	0'09	5°69	71°97
29	339°315	259°142	2°792	34'15	2'20	0'07	5°15	72°38
Apr. 2	339°547	260°055	+2°802	33'98	2'19	0'06	4°61	72°84

The following is a list of the Greenwich Mean Times when the the illuminated disc, and the intervals between successive passages,

Date. 1904.	Passage of Zero Meridian.				Intervals between Passages.		Date. 1904.	Passages of Zero Meridian.				Intervals between Passages.	
	System I.	System II.						System I.	System II.				
May	h	m	h	m	I. 9 ^h + m	II. 9 ^h + m	June	h	m	h	m	I. 9 ^h + m	II. 9 ^h + m
1	8	11'80	2	58'99	50°623	55°802	8	1	47'24	4	30'96		
3	9	24'91	4	38'00			10	3	0'11	6	9'73		
5	0	47'39	6	17'00			12	4	12'98	7	48'49		
7	2	0'49	7	56'00			14	5	25'83	0	27'23		
9	3	13'58	9	34'98			16	6	38'67	1	10'21		
11	4	26'68	1	18'17			18	7	51'51	2	48'93	50°563	55°742
13	5	39'75	2	57'14			20	9	4'32	4	27'63		
15	6	52'81	4	36'11			22	0	26'55	6	6'32		
17	8	5'87	6	15'07	50°608	55°787	24	1	39'32	7	44'99		
19	9	18'91	7	54'00			26	2	52'07	9	23'63		
21	0	41'32	9	32'92			28	4	4'81	1	6'54		
23	1	54'31	1	16'04			30	5	17'54	2	45'16		
25	3	7'30	2	54'93			July						
27	4	20'28	4	33'80			2	6	30'26	4	23'77		
29	5	33'24	6	12'66			4	7	42'96	6	2'36	50°537	55°717
31	6	46'19	7	51'50			6	8	55'64	7	40'94		
June							8	0	17'77	9	19'49		
2	7	59'14	9	30'33	50°585	55°765	10	1	30'41	1	2'32		
4	9	12'05	1	13'38			12	2	43'01	2	40'84		
6	0	34'36	2	52'18			14	3	55'66	4	19'34		

Jan. 1904.

Observations of Jupiter.

249

Greenwich Noon.	Longitude of λ 's Central Meridian.		corr. for Phase.	Light- time.	A—O.	B.
	877° 90' I.	870° 27' II.				
1904. Feb. 13	166° 59	320° 73	° 44	44° 59 ^m 1	260° 29	3° 02
17	77° 22	200° 83	° 41	45° 05 ^m 6		
21	347° 82	80° 92	° 38	45° 50 ^m 4	261° 02	3° 03
25	258° 41	320° 99	° 35	45° 93 ^m 6		
Mar. 1	168° 98	201° 05	° 32	46° 35 ^m 0	261° 75	3° 04
5	79° 54	81° 09	° 29	46° 74 ^m 4		
9	350° 09	321° 12	° 26	47° 11 ^m 8	262° 47	3° 04
13	260° 64	201° 15	° 23	47° 47 ^m 0		
17	171° 18	81° 17	° 19	47° 79 ^m 8	263° 21	3° 05
21	81° 72	321° 19	° 17	48° 10 ^m 3		
25	352° 26	201° 21	° 14	48° 38 ^m 5	263° 93	3° 05
29	262° 80	81° 23	° 12	48° 64 ^m 4		
Apr. 2	173° 34	321° 26	—0° 09	48° 88 ^m 0	264° 66	+3° 05

adopted zero-meridians of the two systems will pass the middle of
to facilitate the determination of intermediate ones :

Date. 1904.	Passage of Zero Meridian.		Intervals between Passages.		Date. 1904.	Passage of Zero Meridian.		Intervals between Passages.	
	System I.	System II.	I. 9 ^h + m	II. 9 ^h + m		System I.	System II.	I. 9 ^h + m	II. 9 ^h + m
July	h	m	h	m	Aug.	h	m	h	m
16	5	8° 27	5	57° 83	23	8	23° 44	7	18° 83
18	6	20° 85	7	36° 30	25	9	35° 70	8	56° 97
20	7	33° 41	9	14° 75	27	0	57° 50	0	39° 47
22	8	45° 95	0	57° 50	29	2	9° 73	2	17° 58
24	0	7° 97	2	35° 93	31	3	21° 94	3	55° 66
26	1	20° 49	4	14° 33	Sept.				
28	2	32° 98	5	52° 71	2	4	34° 13	5	33° 73
30	3	45° 46	7	31° 10	4	5	46° 31	7	11° 79
Aug.					6	6	58° 47	8	49° 84
1	4	57° 92	9	9° 42	8	8	10° 62	0	32° 27
3	6	10° 37	0	52° 09	10	9	22° 76	2	10° 28
5	7	22° 81	2	30° 40	12	0	44° 40	3	48° 29
7	8	35° 22	4	8° 70	14	1	56° 52	5	26° 28
9	9	47° 61	5	46° 99	16	3	8° 63	7	4° 26
11	1	9° 51	7	25° 25	18	4	20° 73	8	42° 23
13	2	21° 88	9	3° 50	20	5	32° 82	0	24° 60
15	3	34° 23	0	46° 09	22	6	44° 89	2	2° 56
17	4	46° 56	2	24° 30	24	7	56° 95	3	40° 50
19	5	58° 87	4	2° 49	26	9	9° 00	5	18° 43
21	7	11° 16	5	40° 67	28	0	30° 64	6	56° 36

Date. 1904.	Passage of Zero Meridian.				Intervals between Passages.	
	System I.		System II.		I. 9 ^h + m	II. 9 ^h + m
Sept.	h	m	h	m		
30	1	42.68	8	34.29		
Oct.						
2	2	54.72	0	16.61		
4	4	6.75	1	54.51		
6	5	18.77	3	32.41		
8	6	30.80	5	10.32	50.406	55.583
10	7	42.83	6	48.23		
12	8	54.87	8	26.15		
14	0	16.51	0	8.48		
16	1	28.55	1	46.40		
18	2	40.60	3	24.33		
20	3	52.66	5	2.26		
22	5	4.72	6	40.20		
24	6	16.80	8	18.17	50.419	55.596
26	7	28.91	0	0.56		
28	8	41.04	1	38.56		
30	0	2.73	3	16.58		
Nov.						
1	1	14.92	4	54.63		
3	2	27.10	6	32.69		
5	3	39.31	8	10.78		
7	4	51.54	9	48.90		
9	6	3.80	1	31.41	50.455	55.631
11	7	16.09	3	9.58		
13	8	28.41	4	47.78		
15	9	40.76	6	26.00		
17	1	2.66	8	4.25		
19	2	15.05	9	42.52		
21	3	27.46	1	25.16		
23	4	39.90	3	3.40		
25	5	52.38	4	41.85	50.498	55.676
27	7	4.88	6	20.24		
29	8	17.41	7	58.66		
Dec.						
1	9	29.98	9	37.10		
3	0	52.05	1	19.88		
5	2	4.67	2	58.39		
7	3	17.31	4	36.92		

Date. 1904.	Passage of Zero Meridian.				Intervals between Passages.	
	System I.		System II.		I. 9 ^h + m	II. 9 ^h + m
Dec.	h	m	h	m		
9	4	29.98	6	15.49		
11	5	42.68	7	54.08	50.542	55.720
13	6	55.41	9	32.69		
15	8	8.17	1	15.61		
17	9	20.96	2	54.29		
19	0	43.21	4	32.98		
21	1	56.02	6	11.65		
23	3	8.88	7	50.46		
25	4	21.77	9	29.24		
27	5	34.70	1	12.28	50.584	55.762
29	6	47.63	2	51.10		
31	8	0.58	4	29.95		
1905. Jan.						
2	9	13.55	6	8.80		
4	0	35.95	7	47.70		
6	1	48.97	9	26.60		
8	3	2.01	1	9.74		
10	4	15.07	2	48.69		
12	5	28.14	4	27.66	50.615	55.795
14	6	41.22	6	6.64		
16	7	54.32	7	45.65		
18	9	7.44	9	24.66		
20	0	29.95	1	7.90		
22	1	43.12	2	46.95		
24	2	56.30	4	26.02		
26	4	9.49	6	5.10		
28	5	22.69	7	44.19	50.641	55.820
30	9	35.90	9	23.29		
Feb.						
1	7	49.13	1	6.60		
3	9	2.37	2	45.74		
5	0	24.96	4	24.88		
7	1	38.22	6	4.04		
9	2	51.48	7	43.21		
11	4	4.76	9	22.39		
13	5	18.05	1	5.72	50.657	55.837
15	6	31.35	2	44.90		
17	7	44.65	4	24.09		

Jan. 1904.

Observations of Jupiter.

251

Date. 1904.	Passage of Zero Meridian.				Intervals between Passages.		Date. 1904.	Passage of Zero Meridian.				Intervals between Passages.	
	System I.		System II.		I. g^h+	II. g^h+		System I.		System II.		I. g^h+	II. g^h+
Feb.	h	m	h	m	m	m	Mar.	h	m	h	m	m	m
19	8	57.96	6	3.38			13	2	43.40	4	23.28		
21	0	20.61	7	42.58			15	3	56.76	6	2.55		
23	1	33.94	9	21.79			17	5	10.12	7	41.82	50.673	55.854
25	2	47.26	1	5.15			19	6	23.49	9	21.08		
27	4	0.60	2	44.37			21	7	36.86	1	4.50		
Mar.							23	8	50.23	2	43.77		
1	5	13.94	4	23.61	50.669	55.848	25	0	12.93	4	23.04		
3	6	27.29	6	2.85			27	1	26.30	6	2.31		
5	7	40.64	7	42.10			29	2	39.67	7	41.58		
7	8	53.99	9	21.35			31	3	53.04	9	20.85		
9	0	16.68	1	4.76			Apr.						
11	1	30.04	2	44.02			2	5	6.41	1	4.27	50.674	55.854

The quantities in the ephemeris are to be interpolated directly for the times for which they are required, the equation of light having been already applied.

The position of *Jupiter's* North Pole is assumed to be R.A. $17^h 51^m 58^s.89$, N.P.D. $25^\circ 26' 13''.5$ at the beginning of 1904, and R.A. $17^h 51^m 59^s.13$, N.P.D. $25^\circ 26' 14''.1$ at the beginning of 1905.

P denotes the position-angle of the northern extremity of *Jupiter's* axis, reckoned eastward from the northernmost point of the disc.

$L-O+180^\circ$, $\Lambda-O+180^\circ$ are the jovicentric right ascensions of the Earth and Sun respectively, reckoned in the plane of the planet's equator from O, the point of the vernal equinox of *Jupiter's* northern hemisphere; B, B are the jovicentric declinations of the Earth and Sun above the planet's equator.

The adopted values of the diameters at distance 5.20 are : Equatorial $38''.419$; Polar $35''.945$.

The assumed time for light to traverse the unit distance is $498^s.92$, this being the same value as that used by Mr. Marth.

d denotes the jovicentric angle between the Earth and Sun.

Q denotes the position-angle of the point of greatest phase, and is reckoned eastward from the northernmost point of the disc. It also gives the position-angle of the shadows of the satellites measured from the satellites themselves.

If we call B'' the jovigraphical latitude of the centre of the disc, then we can find B'' by the formula :

$$B'' = \sec^2 \epsilon_0 B, \text{ where } \sec \epsilon_0 = \frac{a}{b} = \frac{15.53}{14.53}.$$

The longitudes of *Jupiter's* central meridian are computed with unaltered values of the rates of rotation and of the zero-meridians in the two adopted systems. The addition of the

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"Corr. for Phase" gives the longitudes of the meridians which bisect the illuminated disc.

The sidereal periods of rotation corresponding to the two adopted systems are $9^h 50^m 30^s \cdot 004$, $9^h 55^m 40^s \cdot 632$.

The ephemeris has been somewhat abbreviated as compared with those in recent years, being for every four days instead of every two days. Instead of giving every transit of the zero meridian, only one in every two days is given; but any intermediate transit may be readily found by applying to the nearest transit in the table once or twice the interval between successive passages, which interval is tabulated every sixteen days.

I have received several observations of the longitude of the Great Red Spot in System II. from Mr. W. F. Denning and Rev. T. E. R. Phillips, from which I have deduced the following mean values.

Date. 1903.	Longitude.	No. of Observations.	Date. 1903.	Longitude.	No. of Observations.
May 28	... $30^{\circ}0$	2	Sept. 8	... $32^{\circ}9$	5
June 26	... $32^{\circ}0$	3	Oct. 23	... $34^{\circ}6$	4
July 11	... $31^{\circ}4$	5	Nov. 19	... $34^{\circ}4$	6
Aug. 14	... $32^{\circ}7$	8	Dec. 7	... $34^{\circ}4$	2*

It appears that the rapid diminution in the longitude which took place in 1902 has ceased and been followed by a slow recovery. Rev. T. E. R. Phillips considers that the spot was more conspicuous in 1903 than it has been for some years; it should therefore be carefully watched in case of a revival of activity.

A list of times of elongation of the fifth satellite is given in the *Connaissance des Temps*.

It may be mentioned here that the *Connaissance des Temps* for 1899 and following years gives ephemerides for the satellites of *Mars*, *Saturn*, *Uranus*, and *Neptune* in the same form as those formerly contributed to the *Monthly Notices* by Mr. Marth.

* To these may be added the mean of two observations just received from Mr. Denning, which give $35^{\circ}3$ on 1904 January 8.

Benvenue, 55 Ulundi Road, Blackheath, S.E.,
1904 January 2.